NTNU
Norwegian University of Science and Technology

TRONDHEIM | GJØVIK | ÅLESUND

Jobbnorge-ID: 114300
Søknadsfrist: Avsluttet
Nettside:
Omfang:
Varighet:

6 Funded Ph.D.Studentships-Computer Science and Information Security

Gjøvik University College (GUC, www.hig.no) invites applications for up to six Ph.D. positions in computer science and information security. The positions will be affiliated to the Norwegian Colour and Visual Computing Laboratory (Colourlab, www.colourlab.no) and the Norwegian Information Security Laboratory (NISlab, www.nislab.no). Both laboratories are part of GUCs Faculty of Computer Science and Media Technology (IMT, www.hig.no/imt). IMT is a research intensive faculty with a solid project portfolio in addition to a complete offering in higher Computer Science and information security education (B.Sc., M.Sc., and Doctoral education).

In addition IMT leads the national research school in information security (COINS) and hosts the Center of Cyber and Information Security (CCIS, www.ccis.no). CCIS will become one of the largest academic research groups in information and cyber security in Europe and will establish itself as a national resource and contact point for the nation's international partners. IMT is actively embedded in the global research community and has English as its working language. NISlab operates Bachelor, Master and Ph.D. programmes dedicated solely to information security, and is also charged with leading the national research school in information security, COINS.

Position descriptions and qualification
The appointment is for a term of three years. All successful candidates must be able to secure a residency and work permit in Norway. The college is committed to a policy of equal opportunity in employment practices, and we particularly would like to encourage female candidates to apply. Furthermore, the following qualifications apply for all the announced positions:

- Two-year M.Sc. degree with an average grade of B or better
- High motivation for research work and ability to work independently
- Good organisation and communication skills with interest in wider context of own research and ability to engage in cross-disciplinary teams.
- Eager to disseminate research results through publications and presentations at international conferences.
- Written and oral fluency in English.

Further details and requirements for individual positions can be found below.

PhD #1
Print-and-scan Optimized Watermarking with Minimized Perceptibility to the Human Visual System
The PhD candidate will investigate the perceptibility of watermarks, halftone watermarking, and shall through the research propose improved watermarking schemes based on properties of the human visual system. The improved watermarking strategies are to be compared to other state of the art strategies to improve its reliability and efficiency.
Qualifications:

- Master’s degree in Computer Science or another relevant discipline.
- Knowledge in colour and/or vision science is advantageous.
- Knowledge in digital watermarking / data hiding, feature extraction and signal detection theory is advantageous.
- Programming experience is advantageous

Contact information:
For further questions please contact Associate professor Marius Pedersen (marius.pedersen@hig.no) or Associate professor Bian Yang (bian.yang@hig.no).

PhD #2:
A Model of Common Colour Appearance
The research will focus on cross-media colour reproduction. The candidate will develop a model that takes as input an original colour stimulus on a reference medium, together with the colour gamut of reference and test media, and predicts the colour stimulus on a test medium that is agreed by observers to have a common colour appearance with the original.
Qualifications:

- Master’s degree in a colour science subject
- Experience of colour appearance or gamut mapping
- Experience in use of Matlab or similar programing environment.

Contact information:
For further questions please contact Associate professor Peter Nussbaum (peter.nussbaum@hig.no) or Professor Phil Green (philip.green@hig.no).

PhD #3:

A Probabilistic Approach to Video-based Multi-Target Tracking
The PhD candidate will focus on elimination of the dependency on camera calibration for multi-camera collaboration to improve the robustness of target representation and tracking. The work will explore the possible fusion of multiple cues for stable matching between objects appearing in two or more camera fields-of-view.
Qualifications:

- Master's degree in Computer Science, Electrical Engineering or equivalent
- Good knowledge of image or video processing
- Advantage with prior work in object tracking, Kalman filters, video-based object detection, recognition and tracking, or multi-view video analysis.

Contact information:
For further questions please contact Associate professor Faouzi Alaya Cheikh (faouzi.cheikh@hig.no).

PhD #4:
Big Data Forensics: Large Scale Financial Data Analysis
The PhD candidates will focus on the design and proof of concept implementation of advanced computational models to detect and analyse fraud, scams and marked manipulations. The study will primarily focus on financial and crypto currency markets. The main objective is to develop a unified conceptualization for the assessment, aggregation and linkage of quantifiers that represent pieces of evidence in formal follow-up investigations.
Qualifications:

- Masters Degree in Computer Science
- Background in machine learning & pattern recognition
- Data analysis and uncertainty modelling skills
- Interest in forensics, fraud detection and financial data
- Interest in crypto currencies, crypto markets, Bitcoin blockchain.

Contact information:
For further questions please contact Professor Katrin Franke (katrin.franke@hig.no) or Associate professor Mariusz Nowostawski (mariusz.nowostawski@hig.no).

PhD #5:
Hyper Contextual Information Security Management
The PhD candidate will investigate how knowledge and team management technologies can be best applied to support the work of information security and privacy managers. The research will first focus on developing an information security management upper ontology and, using socio-technical modeling methodologies to measure the effectiveness and efficiency of security and privacy management functions in organizations and societies. The ontology will then be used to evaluate and develop knowledge and team management technologies for information security and privacy management.
Qualifications:

- Master's degree in Computer or Information Systems sciences
- Skills in Ontological development, Universal Modeling language (UML), Artificial Intelligent modeling language(AIML) and knowledge and team management tools
- Skill in work field analysis, structured interviews, and survey design.

Contact information:
For further questions please contact Professor Stewart Kowalski (stewart.kowalski@hig.no) or Professor Rune Hjelsvold (rune.hjelsvold@hig.no).

PhD #6:
System Design and Implementation for Secure, Efficient Critical Energy ICT Infrastructures
The PhD candidate will focus on security issues in cloud computing and smart grids to increase the level of data protection, to employ secure communication protocols and architectures and provide access controls with and beyond what supervisory control and data acquisition (SCADA) and distributed control systems (DCS) offers.
Qualifications:

- M.Sc. or equivalent in Computer Science, Mathematics, Electrical Engineering, or another relevant discipline
- Mathematical ability commensurate with M.Sc. degree
- Strong programming skills

Contact information:
For further questions please contact Associate professor Sule Yilldirim-Yayilgan (sule.yayilgan@hig.no), Professor Stephen Wolthusen (stephen.wolthusen@hig.no), or Professor Alemayehu Gebremedhin (alemayehu.gebremedhin@hig.no).

Salary
The Ph.D. studentship carries a salary at spine point 50 in framework 24 of the Norwegian State Salary Code, approx. gross 429.000 NOK (approx. 50.000 EUR / GBP 37.000). The position provide for automatic membership in the Norwegian Public Service Pension Fund.

Living and working in Gjøvik
Information can be found via the following links:

- Living in Gjøvik: http://english.hig.no/about/about_gjoevik
- Living in the county of Oppland: http://www.oppland.no/Oppland-English/
- Map of Gjøvik University College: http://english.hig.no/map
- About Campus Gjøvik: http://english.hig.no/about/campus_gjoevik.

To apply

Applications will be processed through the college on-line application system. Candidates must explicitly indicate which position(s) they apply for and submit the following documents in electronic form:

- A cover letter (1 page) explaining your motivation and how your skills and experience relate to the research focuses of the position applied for
- A draft research proposal outlining a possible approach for each position applied for (1 page per position).
- CV with list of publications and GRE scores or other supporting documents (as proof of the candidates' study and language abilities)
- Relevant transcript of grades, diplomas, and certificates
- A description of M.Sc. work (1 page)
- Two letters of reference, preferably from academic supervisor(s).

Application deadline, interview and starting date
Applications are accepted on a rolling basis until 15.06.2015.
Selected candidates will be invited to GUC for interviews on August 10th and 11th 2015.
Desired starting date for the positions is as soon as possible after 01.09.2015.

Contact
For general questions on the positions and the process please contact Head of MTL Terje Stafseng (terje.stafseng@hig.no) or Head of NISlab Dr. Laura Georg (laura.georg@hig.no).

Tilleggsinformasjon

Arbeidssted: